

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 049PCT0428FO	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/003470	International filing date (day/month/year) 01.04.2004	Priority date (day/month/year) 25.04.2003
International Patent Classification (IPC) or national classification and IPC		
Applicant FRENZELIT-WERKE GMBH & CO. KG		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
3.	This report is also accompanied by ANNEXES, comprising: <ul style="list-style-type: none"> a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>7</u> sheets, as follows: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4.	This report contains indications relating to the following items: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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International application No.

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Box No. 1 Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-13 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 2-20, 22-26, 28-34 received by this Authority on 08.07.2005 with the letter of 07.07.2005
- nos.* 1, 21, 27 received by this Authority on 23.08.2005 with the letter of 23.08.2005
- ☒ the drawings:
- sheets 1/2, 2/2 _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1-34	YES
	Claims		NO
Inventive step (IS)	Claims	1-34	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-34	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
<p>Reference is made to the following document:</p>			
<p>D1: WO 8704476</p>			
<p>Document D1 is considered the prior art closest to the subject matter of claim 1 and discloses (page 3, line 29 - page 7, line 22): a nonwoven mat that contains 10 to 60 vol.% of fibres that are 6.35-25 mm in length and are made from a high-performance thermoplastic (glass or carbon), 3 to 50 vol.% of melt fibres (aramid) that are 16 mm in length and 10 to 90 vol.% of binding particles (made of vinyl resins or olefins, or...). The nonwoven mat may also contain additional additives.</p>			
<p>The subject matter of claim 1 thus differs from the nonwoven mat known from D1 in that the first fibre and the at least one reinforcing fibre are bonded using 1-10 wt.% of a binding agent only at the crossing or contact points and in that the nonwoven mat has a mass per unit area of 8 to 400 g/m².</p>			

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

The subject matter of claim 1 is thus novel (PCT Article 33(2)).

The present invention can therefore be considered to address the problem of producing a nonwoven mat such that splaying of the reinforcement fibres can be avoided for producing a composite material and of being able to produce very thin moulded parts with higher than average strength during the pressing procedure.

The solution to this problem as proposed in claim 1 of the present application involves an inventive step (PCT Article 33(3)) for the following reasons: the prior art does not disclose bonding the fibres only at the crossing or contact points, or a low mass per unit area of the nonwoven mat of 8 to 400 g/m², so as to be able to avoid splaying of the reinforcement fibres for producing a composite material and to be able to produce very thin moulded parts with higher than average strength during the pressing procedure.

Claims 2-19 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.

Method claim 20 and dependent claims 21-26 for producing a nonwoven mat according to at least one of claims 1 to 19, and product claim 27, as well as dependent claims 28-34, which relate to a fibre

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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	<p>composite material made from a nonwoven mat according to claim 1, also meet the PCT requirements in respect of novelty and inventive step.</p>
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